

## Letter

# Respirator fit-testing - will we pass the test?

Abhijoy Chakladar, Peter O Beaumont and David R Uncles

Department of Anaesthesia, Western Sussex Hospitals NHS Trust, Worthing Hospital, Lyndhurst Road, Worthing, West Sussex BN11 2DH, UK

Corresponding author: Abhijoy Chakladar, [abhijoy.chakladar@gmail.com](mailto:abhijoy.chakladar@gmail.com)

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The UK Health Protection Agency advises health care workers caring for patients with probable or confirmed flu-like illnesses, with serious respiratory illnesses or where aerosol generating procedures are being undertaken to use a filtering face piece-3 (FFP3) respirator [1].

Whereas masks protect the environment from wearers, respirators by design protect wearers from the environment. Some surgical masks are splash resistant but offer no protection against viruses. Nevertheless, the Department of Health recommends that carers wear splash proof surgical masks when within one metre of symptomatic patients [2]; their rationale is not clear. All FFP3 respirators meet European standard EN149:2001 and fitted properly will reduce exposure to airborne particles by a factor of 20 [3]. Aerosol generating procedures include tracheal intubation, manual ventilation, suctioning, cardiopulmonary resuscitation, bronchoscopy, and possibly non-invasive ventilation and nebulisation [2].

NHS Trusts have started the time- and resource-consuming task of fit-testing their staff for respirators; well fitting respirators are essential to benefit from them but experience has shown that not all staff will fit the first one and the process may take up to 30 minutes [4]. In a UK emergency department, 23% of those fit-tested failed to fit any respirators [5].

A survey of 68 anaesthetic and intensive care medicine trainees in the UK Kent, Surrey and Sussex Deanery in July 2009 identified that 80% had not been fit-tested for FFP3 respirators and more than 50% of respondents had not heard of respirator fit-testing. Of those already tested, 35% were fitted more than 4 months ago, before news of the swine influenza outbreak. This raises uncertainty over how reliably respirators might fit now due to changes in weight or facial hair and, importantly, whether the trainees' current employing Trusts stock the respirators to which they were originally fit-tested.

In particular, we would like to draw the attention of colleagues with beards or moustaches for personal or religious reasons as it is made clear by manufactures that disposable respirators must only be used by clean shaven wearers [3]. Guidance suggests that people with beards require powered respirators [2] and we propose that these individuals should be identified urgently.

The manufacturers of respirators will earn significant revenues from contracts to provide such equipment to the NHS and should, in our view, facilitate the fit-testing process. We recommend the prompt respirator fit-testing of frontline staff and encourage Trusts to ensure there is unambiguous guidance for their use.

## Competing interests

The authors declare that they have no competing interests.

## References

1. Health Protection Agency: **The use of personal protective equipments (PPE) by healthcare workers in close contact with possible, probable and confirmed cases of swine flu during the pre and pandemic phases (Version 1.1 15.05.2009)**. 2009 [[http://www.hpa.org.uk/web/HPAwebFile/HPAweb\\_C/1242371195903](http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1242371195903)]
2. Department of Health and Health Protection Agency: **Pandemic Influenza: Guidance for infection control in critical care**. 2008 [[http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_084178](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_084178)]
3. 3M: **Human cases of swine influenza - current questions and answers**. 2009 [[http://solutions.3m.co.uk/3MContentRetrievalAPI/BlobServlet?locale=en\\_GB&md=1241185588000&assetId=1180612600616&assetType=MMM\\_Image&blobAttribute=ImageFile](http://solutions.3m.co.uk/3MContentRetrievalAPI/BlobServlet?locale=en_GB&md=1241185588000&assetId=1180612600616&assetType=MMM_Image&blobAttribute=ImageFile)]
4. Gomersall CD, Tai DYH, Loo S, Derrick JL, Goh MS, Buckley TA, Buckley TA, Chua C, Ho KM, Raghavan GP, Ho OM, Lee LB, Joynt GM: **Expanding ICU facilities in an epidemic: recommendations based on experience from the SARS epidemic in Hong Kong and Singapore**. *Intensive Care Med* 2006, **32**: 1004-1013.
5. Robinson SM, Sutherland HR, Spooner DJW, Bennett TJH, Lit CHA, Graham CA: **Ten things your emergency department should consider to prepare for pandemic influenza**. *Emerg Med J* 2009, **26**:497-500.

FFP3 = filtering face piece-3.